MAY 1947

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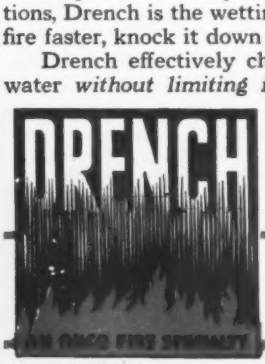

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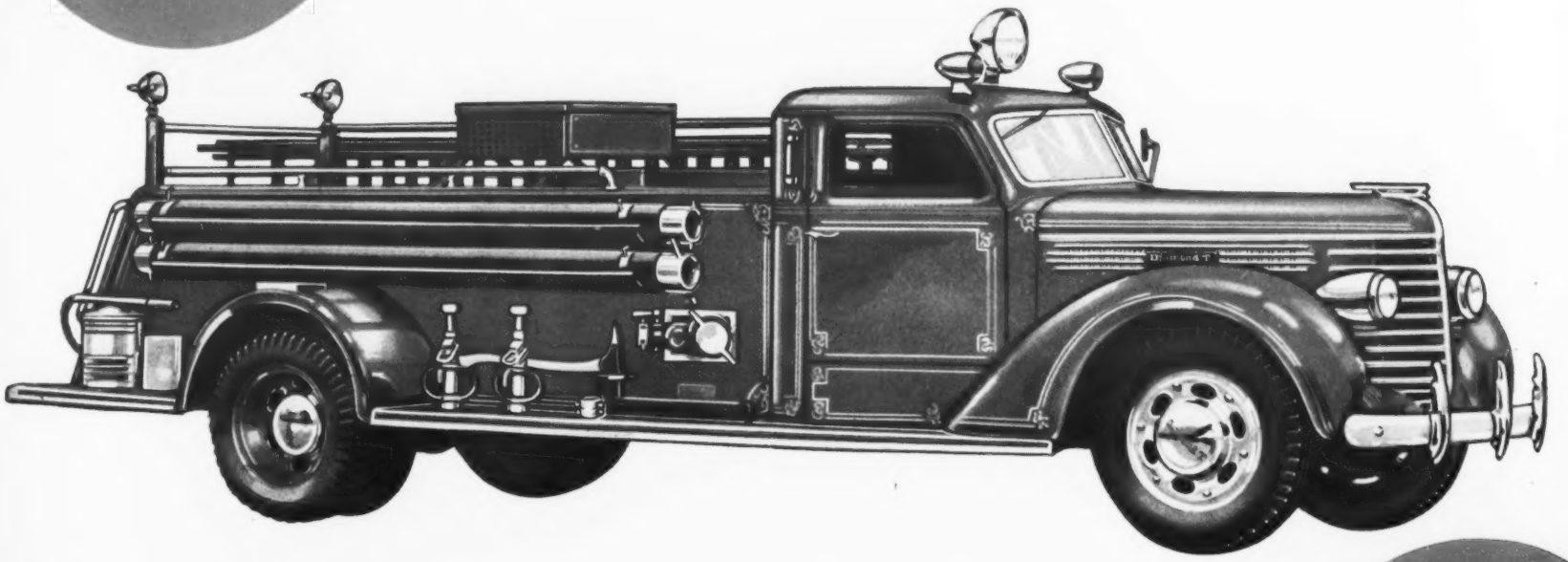

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Firemen

Volume 14 Number 5

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PERCY BUGBEE, GENERAL MANAGER
ROBERT S. MOULTON, TECHNICAL SECRETARY
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THE COVER FIRE this month occurred in Memphis, Tenn., on March 6 in a chain drug store which occupied the first and basement floors of what was originally three buildings. The structures were typical, 4-story brick, ordinary wood-joisted without sprinkler protection. Stairwells were open from the basement to the top floor, plus an ineffective wooden enclosure for the elevator. The retail drug store, typical of such large chain outlets, had large quantities of merchandise on counters and display shelves as well as reserve stock in the basement.

Cleaning women discovered the fire in the basement about 3:55 A.M. and unsuccessfully attempted to dial the operator. Finally they attracted outsiders who telephoned the first alarm. As fire fighters reached the scene, flames had spread upward to involve all floors and three additional alarms were sounded. Twenty-five major hose streams were required. Firemen had trouble in reaching the fire from the rear, as many windows had been bricked up and others were equipped with closed iron shutters. The total loss was estimated at $475,000.

THE CITY OF ROCKFORD, ILL., suffered a million dollar conflagration on March 12, just two days after a waterworks pump and well supplying pressure in the fire area were taken out of service for repairs. Thus the city water supply for sprinklers in the plant where the fire started as well as fire hydrants could provide only 750 gpm at 26 pounds pressure. A maximum of five streams was all that could be obtained at the height of the fire.

The fire started on the second floor of a tire storage and repair shop after employees had left. A workman at an outside loading platform heard sprinklers running and gave an alarm which brought four pumpers and a ladder company. The first pumper arrived after slight delay due to heavy traffic and found flames issuing from a second floor window. With a crew of only three men and the necessity of using the pump to boost the low pressure, it was impossible to make the inside stairs and a stream with a 1¼-inch tip was directed through the window from which fire was issuing in an attempt to hold the fire until help arrived.

As the dry pipe sprinkler system had no exhauster to speed removal of air from the piping, it was assumed that many heads had fused at the start of the fire. It was noted that as soon as the first pumper was placed in service, the pressure in the city main fell and the intensity of the fire increased. A short time later a small explosion spread the fire. Despite previous recommendations of insurance engineers, there was no connection by which the fire department could pump into the sprinkler system.

The second company to arrive laid an 1,100-foot line and also directed a stream through a window. The third engine laid a line from the nearest pumper and the men tried to make the stairway but were ordered over a ladder to operate from a canopy over the loading platform. When windows were opened, pent up gases flashed, driving firemen to the ground, and streams were then concentrated on a fire wall of an adjoining plant.

The fourth pumper and the ladder truck were delayed by a train, but when the pumper arrived another long line was laid from the second pumper to the fire. This added demand on the water supply, with resulting fall in pressure, caused collapse of the soft suction of the pumper nearest the fire. This necessitated the use of smaller tips. Meanwhile one hose crew was driven from the boiler house roof and set its pumper at a private fire pump reservoir of an exposed plant supplying two streams until the reservoir went dry three hours later. The fourth pumper siamesed two 1,000-foot lines from a distant hydrant to give additional supply to the engine which was supplying two long lines. Two additional engine companies and off-shift firemen were called to assist at the fire and the five hose streams were moved westward with the progress of the fire, which was finally stopped at a

Continued on page 17

Rockford Conflagation

Acme

A FIRE PUMP AND FIRE APPARATUS FOR EVERY SERVICE

Rural Fire Fighting — English Style

by Commander Sir Aylmer Firebrace, Chief of Staff, British National Fire Service

Reprint permission is gratefully acknowledged to "Chamber's Journal," August 1946.

RURAL fire fighting is done by men who, while pursuing their normal vocations, hold themselves in constant readiness for a call to a fire.

Some serve as volunteers, drawing no pay. Before the war there were to be found volunteer firemen who bought their uniforms out of their own pocket, paid their own expenses to attend training camps, and in a few cases actually purchased some of their own fire fighting equipment. There were even volunteer brigades for which there was a waiting list and for which entry was by ballot. Other rural firemen receive a retaining fee and so are called "retained firemen" (similar to call firemen in the United States). Today far more retained firemen are doing duty than volunteers. The retained fireman, like the volunteer, is the butcher, the baker, the candlestick maker; the rich man, the poor man; the shop owner, the council employee, the garage proprietor, the farmer; in fact, retained firemen constitute an average cross-section of country society.

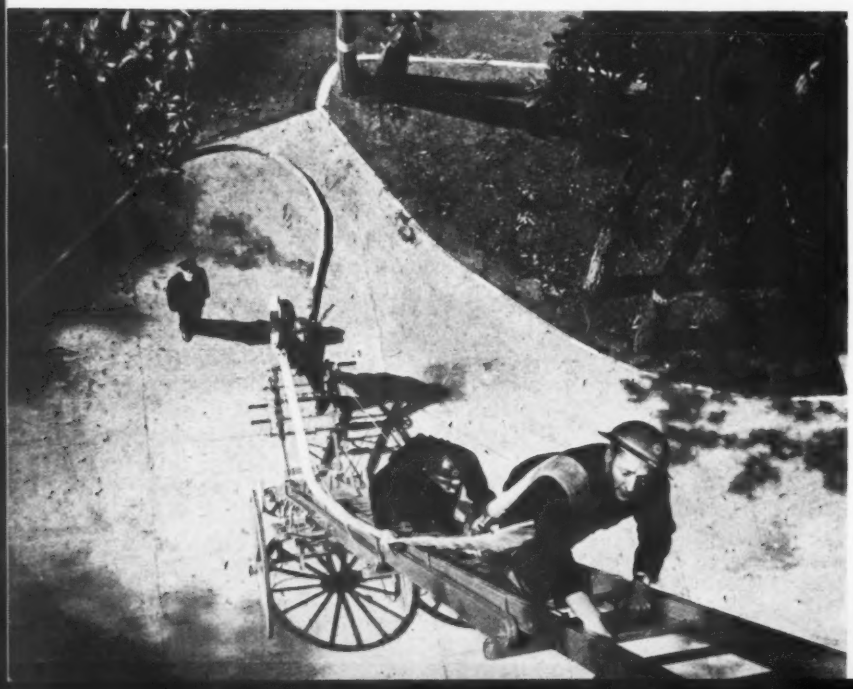
The impression must not be gained that the retained fireman, or indeed his volunteer counterpart, is exclusively concerned with countryside fires. On the contrary, he is the protector of many sizable towns. And not many months ago even a serious fire in a liner was extinguished by crews of whom the majority were retained firemen. "Any time — any fire — anywhere," in any fireman's motto.

Why do men become part-time firemen? They enroll from a desire to perform public service, to be associated with a body of men which is always ready to come to the aid of the community, because their fathers and grandfathers have been either retained or volunteer firemen before them, because their friends have joined, because they like to do something different from their daily round of common tasks. Probably the strongest attraction of all is the possibility of excitement and adventure.

Recently the conditions of service of the retained fireman have been improved, and now, in addition to an increased retaining fee, he receives a reasonable sum each time he answers a call. This is some slight inducement to help him out of a warm bed on a cold night.

Sunday morning often finds the rural fireman in the fire station yard carrying out drills with ladders, pumps, and water tenders. Or there will perhaps be a talk on some fire service subject — the water supplies in the neighborhood, the best way to dam streams, the most efficient method of submerging a pump suction in a shallow, weed-filled pond. There may be instruction in how to send back correctly worded messages from a fire.

Retained (call) rural firemen practicing escape drill at a residential fire school



Country firemen experience as much variety in their work as do their whole-time [full-time] opposite numbers. Their thrills may come from forest fires — and our [the English] coniferous woodlands are liable to them. A change of wind and firemen may be cut off by a barrier of flame and have to run for it, stumbling blindly over rough ground through choking smoke. And sometimes, on these occasions, they have to move very quickly, for a fire in an unbrashed* wood is capable of traveling faster than a man can run.

Trenching ahead of the fire can in some cases be carried out, possibly with the use of a tractor-pulled grubber or plough. In the war years a bull-dozer often played a useful part. Counter-trenching is a technique sometimes adopted when conditions are suitable; firemen will have to have the advice of an experienced forester when this technique is being adopted. Counter-trenching consists in deliberately lighting a stretch of gorse or undergrowth (starting at a natural fire-break such as a road or stone wall) in the way of an advancing fire, and ensuring that the new fire travels *towards* the oncoming main fire. The two fires link up and, having nothing further on which to feed, burn themselves out.

Crop fires only occur during a short period after the grain is ripe. Barley, which carries a low degree of moisture, is the most easily ignited. The fire sweeps viciously over the swaying gold, leaving in its wake a devastated area of black-tipped straw. One spark from a railway or traction engine and the labor of a year has been lost.

A frequent source of trouble, labor, and loss of time to the rural fireman is the stack fire. Arriving at a stack fire, the fire fighter consults the farmer.

** A forest is said to be brashed when the lower branches of the trees have been lopped off and the ground under the trees cleared.*

It may be best to leave a haystack (though never a grain stack) to burn out. Animals will not touch hay that has been tainted by smoke, and so its salvaging is often not worth the time and labor involved. But if, as so often happens, the rick is in a stackyard with others in close cluster, perhaps adjacent to farm buildings, then the burning stack must be attacked with speed and resolution.

Farm buildings suggest animals—horses and cows. These become terrified at the sight, sound, and smell of roaring flames. How invaluable then is the part-time fireman who is also a stockman or carter. He will know how to release the cows from their stalls and how to lead out frightened, plunging horses, their eyes covered (if there is time) with coats or sacking.

Thatched roofs are very picturesque, but they inevitably constitute a heavy fire risk. The country fireman knows how to tackle a job of this sort. He won't be found trying to extinguish it by a long range water attack from the road, for this type of roof is designed to keep out water and will not allow it to percolate through to the fire. Working at close quarters, he will damp down any fire visible from the upper or the under side of the thatch. Then, assisted perhaps by farm laborers who will, as likely as not, bring their own four-pronged "grapples" or muck-rakes with them, the fireman will start making fire breaks by pulling off the thatch on either side of the fire. He may also make an opening inside the house underneath the burning area. The thatch (wheat, straw, Norfolk reeds, or rushes) is loosened by the withdrawal of the twisted wooden "spars" which keep it in place, after which it readily comes away.

It is not often that a fireman can reach an aircraft which crashes off its aerodrome in time to effect rescues. Sometimes he does, and then he is called upon to face the fierce scorching heat of blazing octane spirit. Trained with the help of the RAF for just such a contingency, he knows how and where to break into the aircraft in order to save pilot and crew — and how to do it without adding to their injuries.

Ask a country fireman if fire fighting is hard work and he will smile, but say little. Across the screen of his mind will pass the recollection of weary hours spent dragging pumps over difficult ground, digging them out when they have become bogged, and the laying out of hose lines up a mountain side, across ploughed land, or through soggy meadows. He will recall long fights with peat fires where his boots sank into the ground at every step, boots whose soles had earlier been burned through in walking over hot cindery ground.

So often in rural fire fighting things are made difficult by scarcity of water and the country fireman has to learn the art of making one gallon do the work of two. There are only two ways of bringing water up from a distance; the first, by laying lines of hose, with booster pumps inserted at intervals; the second, the lineal descendant of the bucket chain but now on a grander scale, with motor tenders, each carrying 500 gallons of water, taking the place of buckets.

During the war there were many country firewomen. They manned control rooms and had the responsible task of taking in fire calls and dispatching fire appliances. Today there are quite a number of faithful enthusiasts who still help their old units, attending

Continued on page 16

Retained (call) firemen drilling on the quay near the famous Conway Castle and town wall built by King Edward I in 1284 in Caernarvonshire.

Pictures courtesy Commander Firebrace

Present first turnout leaving the St. Asaph Fire Station, manned by retained firemen. The siren used for summoning the retained firemen in case of necessity can be seen fitted to the roof of the fire station.

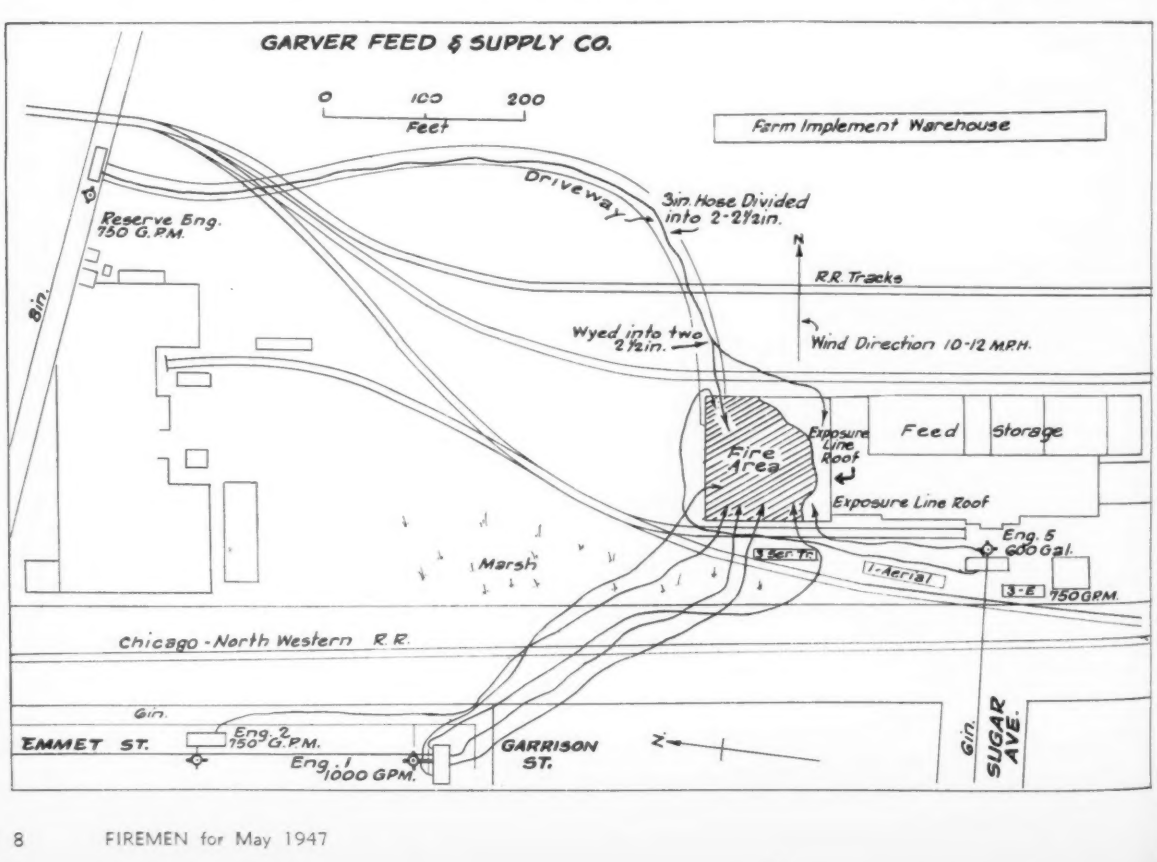
Fire Combat Plans Made in Advance

Here is a serious fire in a feed supply and trucking warehouse for which the Madison, Wis., Fire Department had made plans in advance. As reported by Capt. Edward P. Durkin, Bureau of Training and Instruction, Madison Fire Department, complicating factors requiring special planning included the comparatively large potential fire area as compared with insufficiency of water supply and available hydrants.

THE BUILDING is approximately 45 years old and was originally used as a sugar beet refinery. It stands about one and one-half blocks from the main highway at the extreme eastern limits of the city, approximately a mile from the nearest fire company. The building is 425 feet long and 125 feet wide, of 1-, 2-, and 3-story brick, cement block, and joisted construction. The main 2- and 3-story portion is used as a feed and grain company warehouse. At the time of the fire, the 1-story portion was leased as a trucking terminal warehouse, which in turn had been subleased to five other tenants, separated by light wooden partitions.

It had long been recognized by the Madison, Wis., Fire Department that, due to the insufficiency of water supply and hydrants, large area, and lack of private protection, fire at this location would pose a serious problem in control and extinguishment. The only hydrant on the grounds was 10 feet from the front of the building. The closest hydrants on city mains varied in distance from 500 to 800 feet to the nearest part of the building. A small creek approximately 700 to 800 feet away had never been considered seriously for use in case of fire, due to its freezing in winter and lack of water in summer.

The first alarm was received by telephone at 8:25 A.M. from the office of one of the tenants of the trucking company. It was stated that some paper boxes were burning in the office. Engine 3, 750 gpm, Truck 3, and Engine 5, 500 gpm, were dispatched under



Assistant Chief Leonard Sime. Engine 5 laid a line from the hydrant in front of the building to the doorway at the northeast corner where the fire had originated. A second line was laid in reverse (fire to hydrant) from the west side of the building back to the same hydrant and operated through the loading dock doors.

In storage next to the office where the fire originated, a tenant oil company had 16,000 gallons of motor oil in paper cartons. Stored twelve to a carton, these were cardboard containers used as a wartime substitute for cans. This stock was already involved when the fire department arrived and had created an intensely hot fire.

Engine 3 laid and carried two lines from the nearest hydrant on a city street, a distance of about 500 feet across the railroad right-of-way, to meet the fire at the west side of the building. Assistant Chief Sime radioed a second alarm at 8:30 A.M. which brought Engine 1, 1000 gpm, Engine 2, 750 gpm, Ladder 1, an aerial, and Chief Edward J. Page, who took command. The off-duty crew of Engine 3 was recalled and a reserve 750 gpm pumper was placed in service.

On arrival on the second alarm, Engine 1 carried two more lines from the same hydrant used by No. 3 and pumped into the four lines from this hydrant. Engine 2 stretched and pumped into a 700-foot line from the next nearest hydrant.

When he arrived, Chief Page ordered a third alarm which brought out the reserve 750 gpm pumper. This engine pumped through an 800-foot line of 3-inch hose wyed into two 2½-inch lines. These were carried to the roof to protect the second story of the main building, as flames, fanned by a westerly wind, were coming through the roof of the 1-story section. If this fire had not been held to the building of origin, the aerial truck was in position with the 1¼-inch ladder pipe connected to 3-inch hose to cover the taller portions of the building. Engine 3 was standing by to supply the ladder pipe.

Four lines were worked in through the west side doors and advanced toward the center along the party wall separating the fire area from the main building. The fire was driven to the north end and extinguished. When sufficient progress had been made against the fire, the aerial ladder was returned to quarters and an off-duty crew assigned to place it in service. On the third alarm, off-duty crews had been recalled and a reserve ladder truck placed in service to supplement companies remaining in quarters. These companies handled several subsequent calls for fires and emergencies while the major fire was in progress.

Loss was held to $37,000 out of a $238,000 valuation at stake.

"Who's Who" on the NFPA Staff

With this issue, the Editors are initiating a series of staff portraits of the guiding lights about the NFPA Executive Office. These are the men who write and edit the books, magazines, posters, and pamphlets published under the insignia of the National Fire Protection Association. These are the men to whom you can turn for answers to your fire fighting, prevention, or protection problems.

PERCY BUGBEE has been general manager of the NFPA since 1939. Appointed to this position by the Board of Directors, he has full charge of the administrative affairs of the Association.

Mr. Bugbee graduated from the Massachusetts Institute of Technology in 1920, entering the employ of the NFPA in April, 1921. In 1924, the field service of the Association was organized and Mr. Bugbee was appointed as the first field engineer. In this capacity he visited the principal cities throughout the United States and Canada, obtaining a working knowledge of fire protection and fire prevention work through personal contact throughout the entire North American continent. In his capacity as a field engineer, Mr. Bugbee organized a great many local fire prevention committees and worked intensively with fire departments, city building departments, local Chambers of Commerce, and NFPA members to bring about improvements in municipal fire protection and fire prevention.

In 1927, the Fire Marshal's Section of the NFPA was organized and Mr. Bugbee served as the first permanent secretary of the section. In 1933, he developed the plan for the Volunteer Firemen's Section and the publication of *Volunteer Firemen*, now FIREMEN. He was also the first advertising manager of the Association and initiated the advertising programs in FIREMEN magazine and in the *Quarterly*. He was made assistant managing director of the Association in 1931, and when the former managing director, Franklin H. Wentworth, retired in 1939, the new position of general manager was created and Mr. Bugbee assumed his present duties.

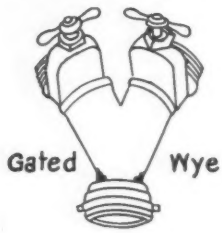
During the war, in addition to carrying on the regular and many additional activities of the Association, Mr. Bugbee took an active part in war work in Washington, serving as chairman of the War Department Advisory Council on Fire Prevention and as a member of a special Board on Fire Prevention appointed by the Under Secretary of War. He also served as chairman of the Industrial Protection Council of the United States Office of Civilian Defense.

Mr. Bugbee is a member of the Executive Committee of the National Fire Waste Council and chairman of its Membership Committee. He is a consultant on fire administration for the International City Manager's Association, secretary of the Fire Protection Group of the American Standards Association and vice-chairman of the Conference of Staff Executives of the Member Bodies of the American Standards Association. He is an honorary life member of the Dominion Fire Prevention Association, the Dominion Association of Fire Chiefs, the Maritime Association of Fire Chiefs, the Pacific Coast Association of Fire Chiefs, the Massachusetts Fire Chief's Club, and similar groups. He is author of many articles on fire protection in popular and technical publications and has made lectures and addresses on fire protection and prevention in all parts of the United States and Canada.

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

Why the Wye?



STANDARD EQUIPMENT on every pumper includes a "wye" connection for dividing a 2½-inch or 3-inch line to provide two less effective streams. In most departments, this device is seldom used. While fire fighters understand the general purpose of the appliance, they may not appreciate the fact that, unless its limitations are understood, unsatisfactory streams may be obtained.

The basic fact to appreciate is that you cannot get something for nothing through a wye connection, any more than you can get two dollars by dividing one dollar. If a 2½-inch line is able to carry 320 gpm at the pressure available, there will be but 160 gpm for each of the two 2½-inch lines that may be wyed off. This gives the approximate flow of a 1-inch tip at 30 psi. Such low pressure may be satisfactory for certain inside work, but would not make much impression in a fire requiring streams from the outside at good pressure.

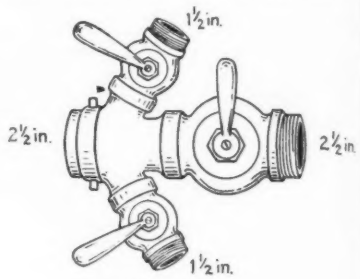
By reducing the nozzle tips to ⅞-inch each, 160 gpm may be discharged at 50 pounds nozzle pressure, assuming that the pumper is capable of developing the required pressure and assuming that ⅞-inch tips are available. Many modern nozzle assemblies provided with pumpers do not have tips of less than 1-inch diameter because it is considered better practice to use 1½-inch leader lines when smaller streams are required.

With 320 gpm flowing through 2½-inch hose (equivalent to a 1¼-inch nozzle tip at 48 pounds), we have a friction loss of 23.8 pounds per 100 feet, or a pressure loss of 116 pounds in 500 feet of hose supplying a wye. Assuming 50 pounds nozzle pressure, if the desired ⅞-inch tips are available, and 6.6 pounds friction loss per 100 feet in the lines between the wye and the nozzles, our pumper must be able to deliver the required 320 gpm at 172 pounds discharge pressure. In general, this would require a 750 gpm pumper (375 gpm at 200 pounds when operating in pressure) or a 500 gpm centrifugal pump working from a hydrant having a high residual pressure at the required flow.

Thus it must become clear that if lines supplying the wye must be long, the friction loss in a single 2½-inch supply line will be excessive, and, if sufficient hose is available, separate lines should be run to the pumper. Where lines are short, there is no appreciable saving in hose in using the wye connection, and some time may be lost, so that separate lines are again indicated.

About the only excuse for using a wye connection to divide a 2½-inch line into two 2½-inch lines is in cases where there is insufficient hose to provide two long lines from the pumper to the fire and the resulting weaker streams must be tolerated. In such cases, a much better practice is to use a "water thief" supplying one or two good 1½-inch lines in addition to one good 2½-inch line. (See *Volunteer Firemen*, May 1939, page 6.)

A good practice in using wye connections is to supply the wye inlet through hose a size larger than the wye outlets. For example, two 2½-inch lines from a wye should be supplied by



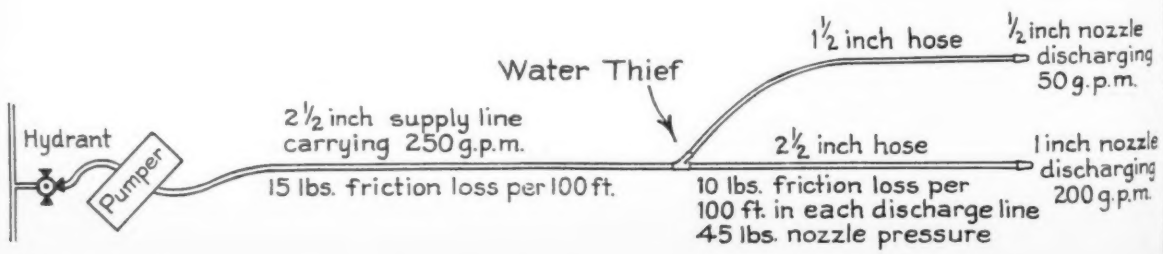
Water Thief.

a line of 3-inch hose. Two to four good streams through 1½-inch hose can be wyed from a single 2½-inch line.

Another simple rule is that the total orifice area of the nozzles to be supplied should not exceed the area of the largest nozzle size that could have been employed effectively for a single line of the same length. For example, if a line could supply a 1¼-inch tip (orifice area 1.2272 square inches) with the pumper capacity and pressure available, the wye should be able to supply two ⅞-inch tips (each .6013 square inches, or a total area of 1.2026 square inches). On the other hand, two 1-inch tips have a total area of 1.5708 square inches, which exceeds the area of a single 1⅜-inch tip. We know that a single 2½-inch line cannot supply a tip of this size as that is a tip used for siamesed heavy streams.

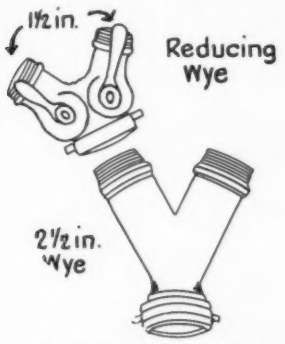
Suppose we desire to wye a long line that would normally have a single 1-inch nozzle tip (area .7854), the nearest equivalent would be two ¾-inch tips which would have a combined nozzle area of .88358 square inches, or about the same as a single $1\frac{1}{16}$-inch orifice.

However, the wyed lines with ¾-inch tips each discharge only about 110 gpm, giving the total discharge of 220 gpm normally obtained through a 1-inch tip. These ¾-inch streams are so little larger than streams that may be obtained from ⅝-inch tips on 1½-inch hose that it is hardly worth


1½ inch hose
½ inch nozzle discharging 50 g.p.m.
Water Thief
2½ inch supply line carrying 250 g.p.m.
Hydrant
Pumper
15 lbs. friction loss per 100 ft.
2½ inch hose
1 inch nozzle discharging 200 g.p.m.
10 lbs. friction loss per 100 ft. in each discharge line
45 lbs. nozzle pressure

struggling with 2½-inch lines. As previously indicated, a better practice is to use the water thief supplying both 1½-inch and 2½-inch lines. If the department does not have a water thief, it is very easy to provide one by merely attaching a gated reducing wye (2½- to two 1½-inch gated outlets) and the original wye will remain available for use with larger lines as desired.

One excellent way to use a wye connection is in supplying two lines of 2½-inch hose with a load of 3-inch



Improvising a Water Thief

hose (see page 8 of this issue). A number of departments have at least one truck in reserve loaded with 3-inch hose for use at large fires. If this hose is not needed to supply heavy streams, it may be used to supply several 2½-inch lines. Other departments have divided hose bodies on their apparatus and carry 3-inch hose on one side and 2½-inch hose in the other compartment. The 3-inch hose has beveled couplings with 2½-inch thread.

New Organization Plan for British Fire Service

ALL firemen should recall that during the stress of the wartime blitz attacks, Britain nationalized its fire service to permit better mobilization, co-ordination and training of its fire fighting forces, combining 1,400 local fire brigades into thirty-four regional fire forces. (See *Volunteer Firemen*, February 1944, page 6.)

With cessation of hostilities, the British government has been preparing to keep its wartime promise to turn back the fire service to local authorities. However, it is planned to keep as many as possible of the advantages of larger units of organization by provisions of a Fire Services Bill recently introduced in the British House of Commons. This bill proposes to transfer responsibility for fire fighting functions to the county councils and to county borough councils.

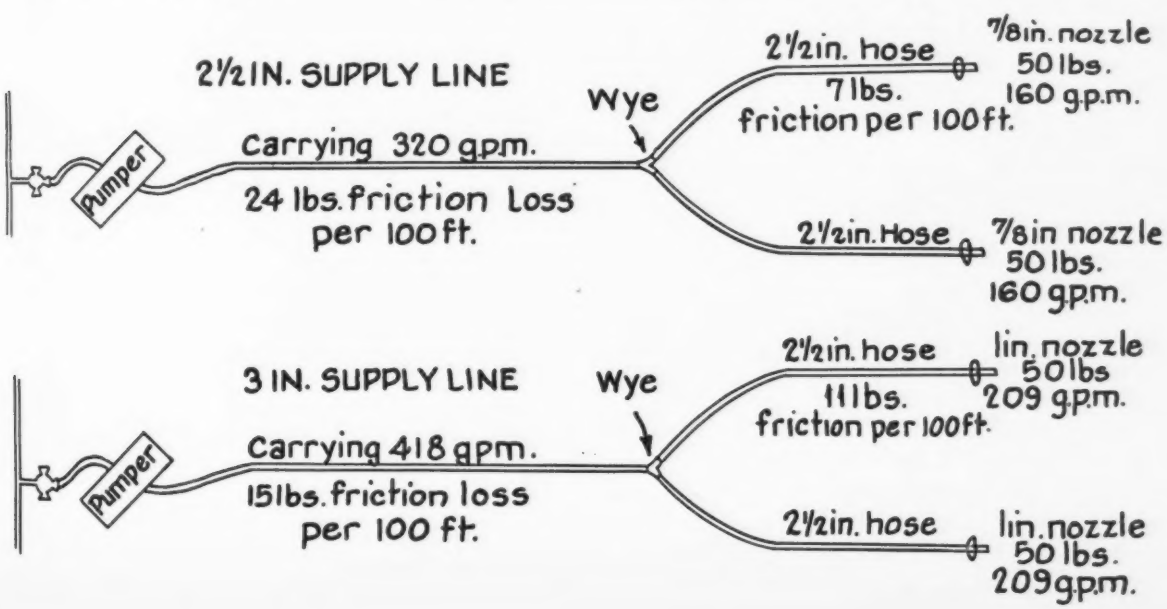
Thus it is interesting to note that fire fighting is to be on a county basis rather than on the basis of cities and towns, as is usual in Canada and the United States. The exceptions are the large urban county boroughs which are comparable to metropolitan centers in the United States. In addition, it is provided that two or more county councils may form a single fire service.

It will be the responsibility of county councils to secure the services of a fire brigade and such equipment necessary to meet efficiently all normal requirements; to provide efficient training for the fire brigades; to provide fire alarm service; to make arrangement for inspections of buildings and water supplies with respect to access for fire fighting; efficient arrangements for salvage operations during fires; and arrangements for fire prevention inspections on request.

In addition, it is required that a fire authority shall take all reasonable measures for assuring provision of an adequate water supply. Fire authorities must make arrangements for mutual aid and the British Secretary of State will set forth a reinforcement scheme if local arrangements are not adequate. The national government, through the Secretary of State, will enact regulations for all fire brigades governing: rank, pay, and allowances; hours of duty and leaves; discipline; methods of appointment of chief officers and other persons, and the qualification of officers; standards of training for fire brigade members; and design of fire equipment.

The central government is also given duties in general fire protection, including maintenance of a central training institution; one or more local training centers; and the appointment of inspectors to determine the manner in which local authorities carry out provisions of the act.

Provision is also made for a national "firemen's pension scheme" to provide maximum pensions after 30 or more years of service, retirement after 25 years, retirement for incapacity after 10 years, and retirement at any time after injury in performance of duty.



Making Telephone Alarms Effective

Albion, R. I., System of Fire Calls Attracts Interest of Rural Companies

by JAMES W. BISHOP, Treasurer, Albion Fire District

VOLUNTEER FIRE DEPARTMENTS in southern New England are showing keen interest in the telephone fire alarm system which was set up recently by the Albion, R. I., Fire Department. Without any outlay for wires, boxes, or maintenance, the fire district is able to have nearly one hundred "box numbers."

The idea was the result of a misunderstanding as to where a fire was about a year ago. Somebody called and said there was a brush fire at the end of the Albion Road. The firemen went to the end of the road, which is near the Smithfield Line. Finding no fire there or anyone who knew anything about a fire, the firemen raced back three miles to the other end of the Albion Road, near Cumberland. There, much to their chagrin, they found that the Ashton Fire Department also had been called, had arrived, extinguished the fire, and departed.

I thought of having location numbers in order to prevent such mistakes. During my spare time, I measured off all the roads in the district, ten miles of them, and drew a map on a scale of one inch to one-tenth of a mile.

Property Properly Indicated

The main entrance to each piece of property was indicated on the map by a dot. Against the dot was shown the name of the owner or the occupant of the building. Cards were prepared and distributed to owners and occupants, and on top of each card in a space or "box" was shown the location number indicated on the map for that particular place.

If John Jones's place was in Section 35, his card carried the number 35 with instructions to give that number for any fire at or near his place.

In perfecting the system, it was surprising to find how few people had ever thought of what they would do in case of fire. One good thing about the new plan was that everyone became fire conscious and hung their cards near their telephones.

One woman said that she had lived in the same house for sixty years and had never needed the firemen. She said that she wouldn't have known what to do if she did need them, but added that she felt pretty good about the idea and that it was almost as good as having a real fire alarm signal box right there in the house.

The first call was from Location 55, and the party calling said to send the firemen to Box 55. Now none of the firemen had thought of calling these numbers boxes, but from that first call right up to the present time everybody says "box" and it seems that an excited person calling for the firemen just naturally says box because it is easier than saying "location."

When the box number was received at the fire station, the performance from then on was the same as it would have been had someone actually "pulled the hook" of an alarm box.

One Year without Failure

Chief Arthur N. Forand, of the Albion Fire Department, says that the idea is very practical and it has been in use for almost a year without a failure or a false alarm, but he says that there is one feature which he hopes will be overcome. He explains by telling about the day that hunters got a fire started in thick underbrush out in the country. It was a very windy day and the fire had gained considerable headway when noticed by a woman living nearby.

She went to the telephone with her location card and knew just what to do, but she found there were two women on the party line having their morning chat. The woman politely told her neighbors that she was sorry to interrupt their conversation but wanted the line to call the fire department.

The women stopped talking but, being curious to know where the fire was, kept the receivers to their ears, little realizing that, by not hanging up, the operator could not get the emergency signal. The delay resulted in a bigger fight for the firemen.

Volunteer fire departments serving the outlying districts where there are no hydrants have gone a long way in improving their fire fighting equipment and most of their trucks now carry a large tank of water with booster lines, but they have been handicapped by the lack of a planned alarm system. It is felt that the Albion idea is one answer for many localities.

Brick walls, fire-resistive floors, and closed stair shafts may not mean much when a structure is topped by a wood shingle roof so inviting to a chance spark. Of just such construction was the Trinity Anglican Church in Ottawa, Ont. When embers from the chimney fell on the roof and smoldered through into the wood interior between roof and ceiling, the resultant fire spread rapidly.

According to Chief C. G. Burnett (NFPA member), the fire was discovered, on March 19, by a resident who phoned an alarm at 9:50 A.M. The Ottawa Fire Department used twelve 2½-inch and three 1½-inch lines. Before the fire was extinguished, it had extended throughout the roof area and spread to furnishings on the main floor. Damage is estimated at $35,000.

Bargaining Rights for Firemen Under New Ontario Legislation

FIRE MARSHAL W. J. SCOTT, of Ontario, reports that a new Fire Department Act, passed by the Ontario Legislature, becomes law on June 1, 1947. This act is unique in its provisions for collective bargaining and arbitration, providing that in departments where members are employed on a full-time basis, a majority of the members of the fire department may require collective bargaining by the municipal council on all matters affecting "duties, privileges, pensions, remuneration, and working conditions."

The act applies to permanent firemen employed on a full-time salaried basis. It provides for 2- and 3-platoon systems. In communities of not less than 10,000 population the members of the permanent fire department shall be divided into at least two platoons which are to work either 24-hour shifts followed by 24 hours off, or are to work 10- and 14-hour shifts, alternating every seventh day from day to night work.

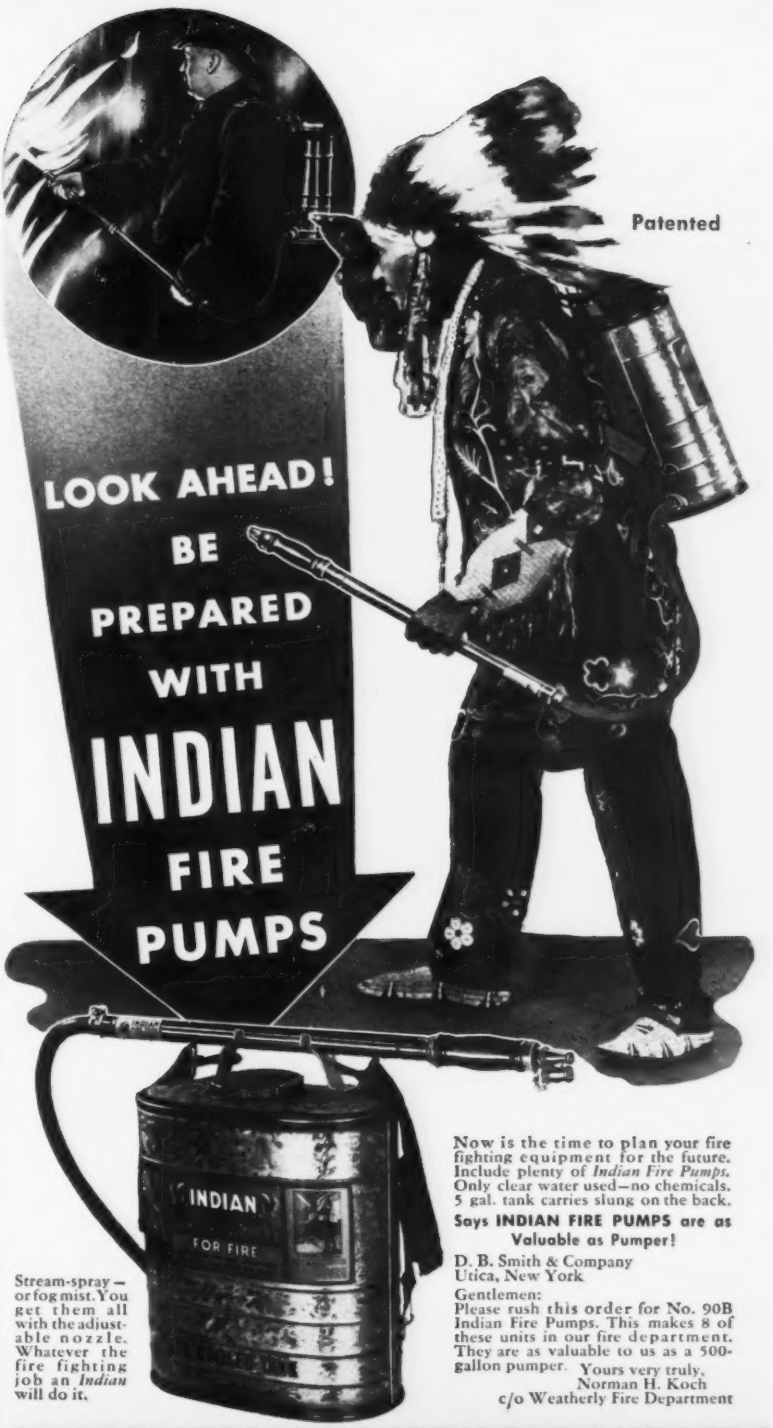
With the 3-platoon system, shifts shall work 8 hours followed by 16 consecutive hours off, with shifts rotating every seven days. Municipalities may establish other systems of work not to exceed 72 hours a week, provided that in the case of serious emergencies the chief may recall off duty members.

The act further provides that in any permanent fire department every member shall be off duty one full 24-hour period in every week and that the 24-hour period at the change of shifts shall not be regarded as a day off. Cities may give more days off.

In addition, the act provides for collective bargaining by a bargaining committee made up of fire department members. Where the fire department union represents not less than 50 percent of the fire department members, it shall be the bargaining agency. Single representatives of affiliated provincial and international unions may attend bargaining meetings in an advisory capacity.

Where the bargaining committee and the municipal council fail to agree, a three-member board of arbitration shall be appointed. Each party assumes its own cost of arbitration.

Agreements shall be binding at the next fiscal period in which the council may include provisions for expenditures. Agreements are not required to be in force for more than one year.



Stream-spray—or fog mist. You get them all with the adjustable nozzle. Whatever the fire fighting job an *Indian* will do it.

Now is the time to plan your fire fighting equipment for the future. Include plenty of *Indian Fire Pumps*. Only clear water used—no chemicals. 5 gal. tank carries slung on the back.

Says INDIAN FIRE PUMPS are as Valuable as Pumper!

D. B. Smith & Company
Utica, New York

Gentlemen:
Please rush this order for No. 90B Indian Fire Pumps. This makes 8 of these units in our fire department. They are as valuable to us as a 500-gallon pumper. Yours very truly,
Norman H. Koch
c/o Weatherly Fire Department

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HERCULES EQUIPMENT & RUBBER CO.
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Capt. J. P. Fay (right) and his assistant, Ernest J. Godino, of the Pittsburgh Bureau of Fire, use an inhalator to revive a guinea pig subjected to carbon monoxide fumes.

Guinea Pig, Balloons, Penny Are Props in Fire Demonstration

USING such varied properties as balloons, dust particles, finger nail polish, a guinea pig, and a penny, Capt. J. P. Fay, of the Pittsburgh, Pa., Bureau of Fire (NFPA member), gave a number of fire, explosion, and gas demonstrations at the Schenley Distillers Corporation's Joseph S. Finch and Company distillery in Schenley, Pa., recently before firemen from a number of cities in this area and the Finch company's own force of 100 volunteers. His performance was preceded by a highly informative fire prevention and fighting talk by William H. Davis, chief of the Pittsburgh Fire Department.

Captain Fay conducted one of the explosion demonstrations by placing some dust in an enclosed chamber and blowing air into it. When the swirling dust sufficiently saturated the air, an explosion occurred, the force of it being released through a paper covered opening in the chamber.

In another explosion test, the fire officer suspended three balloons, one containing oxygen, another a more potent gas, and the third having a mixture of both. He then pierced the balloons in that order, the first giving off a slight report, the second a louder one, and the third a terrific din, demonstrating the added punch of the two together.

Next, illustrating the danger of finger nail polish and remover catching fire, Captain Fay placed some of the fluid in a metal tray and applied a match to it. It ignited almost instantaneously. He cautioned that woman wearing nail polish should be especially careful around cooking stoves and while lighting cigarettes.

The danger in placing a penny behind a fuse in the electric switchboard of a home also was demonstrated. The fire captain, using special apparatus, showed how it could overload the circuit, causing wires to become hot and smoulder behind the walls.

Captain Fay, who is training instructor of the Pittsburgh fire force, gave a number of other interesting demonstrations on fire causes and dangers. He was assisted by Ernest J. Godino, of the Pittsburgh force.

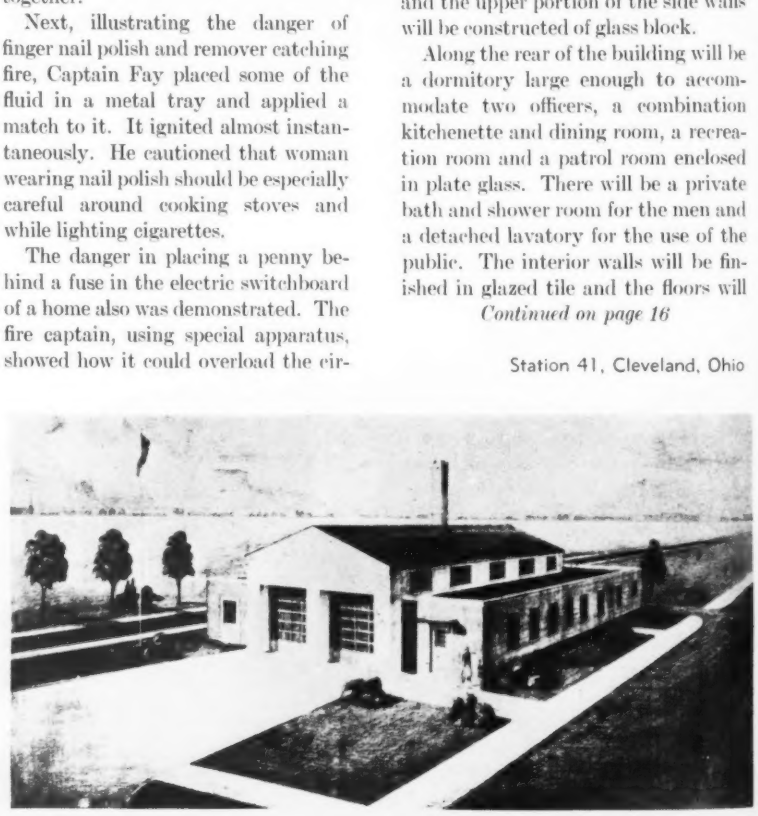
New Cleveland Station Nears Completion

THE NEW BUILDING, Station 41, of the Cleveland Fire Department, pictured below, includes the most modern ideas in fire station construction. The most important of these will be the elimination of traps and sliding poles by the simple expedient of limiting it to a one-floor plan.

As indicated by the large double doors, the apparatus room will be in the center section of the house and will be large enough to hold a hook and ladder truck and a pumper, or two hooks and ladder trucks. This section will be separated from the rest of the building by a brick wall. The floors will be of concrete and will contain drains under each apparatus. The height of the apparatus room will be equivalent to one and one-half stories and the upper portion of the side walls will be constructed of glass block.

Along the rear of the building will be a dormitory large enough to accommodate two officers, a combination kitchenette and dining room, a recreation room and a patrol room enclosed in plate glass. There will be a private bath and shower room for the men and a detached lavatory for the use of the public. The interior walls will be finished in glazed tile and the floors will

Continued on page 16



Station 41, Cleveland, Ohio

But . . . when a wheel on your fire truck spins, it can cost somebody *more* than money.

In addition to the heavy costs of property damage, there's the possibility of loss of life.

That's why fire trucks must get to fires fast! You can't risk the danger of your fire truck getting stuck. Your responsibility is too great.

To make sure that your fire truck will not be held up —no matter what the condition of the road—equip it with a NoSpin Differential. This automatic-locking differential is engineered to *prevent wheel-spin!*

The NoSpin Differential gives full driving power to both rear wheels. Even if one wheel loses some traction, the remaining traction—plus all that of the opposite wheel —is available to move the truck. That's because both wheels must rotate when power is applied.

DON'T GAMBLE WITH WHEEL-SPIN! This time-proved, automatic-locking differential is available for most makes of fire trucks. For complete information, call your truck dealer or local Truckstell distributor. Or write The Truckstell Company, Union Commerce Building, Cleveland 14, Ohio.

Here are some more reasons why you'll want a NoSpin Differential in your fire truck:

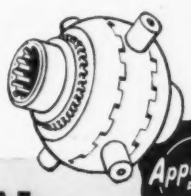
Greater Tire Mileage. Saves grinding away of tires.

Conserves Fuel. Eliminates fuel and oil waste caused by spinning wheels.

Saves Manpower. No time wasted "digging out."

Saves Repair Bills. Outlasts conventional differential under severe operations.

Continuous Operation. Keeps your fire truck operating when others, not so equipped, skid or stall.



NoSpin DIFFERENTIAL
Mfd. by DETROIT AUTOMOTIVE PRODUCTS CORP.
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Approved AND DISTRIBUTED BY TRUCKSTELL
SPECIALIZED EQUIPMENT FOR PLUS PERFORMANCE

Success Story of the Branchville Rescue Squad, Inc.

IN JULY 1939, the Branchville, Md., (north of the District of Columbia), Fire Company, an NFPA member, purchased their first ambulance, a new two-way radio equipped La Salle to handle accident and emergency cases in their 50-square-mile territory. The men took a 20-hour first aid course with the Red Cross and shortly after affiliated with the Prince Georges County Rescue Squad, Inc., as Rescue Squad No. 6. Today they are members of the Maryland State First Aid Council and of the Maryland State Police Medical Bureau.

A used Nash was later converted to augment the ambulance service, and when time caught up with it, a used Buick was put into ambulance duty.

Recently a new Cadillac was ordered at a cost of $5,500. It is to be the most up to date in equipment, featuring two-way police radio, non-transparent glass in the rear compartment, resuscitators, and gas masks.

Recently Rescue Squad No. 6 was saluted on the Tom Brennan Breakfast Club radio program in Hollywood as the Good Neighbor of the Day.

Our Readers Ask —

Gentlemen:

One of our theatres is not just what it should be. What do you recommend for fire protection for the inside of the motion picture machine booth?

I conducted a test on about 250 feet of film in a small metal container. The film was in four small tight rolls. I used about 5 lbs. of a 15-lb. carbon dioxide extinguisher but could not prenot prevent a flash back. In other words, using this small pack of film and with the nozzle not more than 18 inches from the fire, it was impossible to control the fire. I also used about a quart and one-half of carbon tetrachloride with no result. Would it be possible to control a booth fire with a piped-in installation of carbon dioxide?

CHIEF C. E. ZUMWALT
Pierre, S.D., Fire Department

Dear Chief:

We would call your attention to the fact that the extinguishment of nitrocellulose film fires calls for the use of water or some water-solution extinguisher, rather than any extinguishing agent operating on the smothering principle. The reason for this is that the film contains oxygen and when any quantity of it is once thoroughly ignited, it will continue burning or decomposing, even though the air supply is cut off. The only satisfactory way to handle such a fire is to cool the material below the temperature of combustion. This can best be done with water or water-solution extinguishers such as soda-acid.

Film fires are apt to give off gases which are both poisonous and explosive. For this reason, remaining in a closed space such as a film booth to fight such a fire may be rather dangerous. An automatic sprinkler head installed in the booth should take care of any fire which occurs, thus eliminating the need for any close range fire fighting. My personal recommendation would be that if a film fire can be attacked immediately, it may be possible to handle it with an extinguisher, but unless it can be put out almost instantly, the best thing is for the operator to retire from the booth and let the sprinkler head put out the fire. Or, if there is no sprinkler in the booth, a small hose line can be directed through the door or through a projection port.

ROBERT S. MOULTON,
NFPA Technical Secretary

New Cleveland Station Nears Completion

Continued from page 14

be of asphalt tile. The dormitory will be air conditioned.

There will be a half basement under the building which will have a hose drying room where hose will be dried on racks, a workshop (may be large enough for handball), and a boiler room. The walls of the basement will be poured concrete and rough finishing.

The heating system will be an oil furnace and boiler which will furnish steam heat.

The lot is 80 x 250 feet and the building will set back 80 feet from the curb line and 65 feet from the sidewalk line. The side will set back 16 feet from the curb line of Melba Avenue. A 2,000-gallon gasoline tank will be buried in the front yard and a 40-foot flagpole will be erected there. Behind the building there will be ample room for parking.

The 66- x 96-foot, one-story building was designed by City Architect A. Gattozzi, of the Cleveland Division of Architecture. The estimated cost of the building was $125,000.

At the present time, the outside is fairly well completed, and it is estimated that, at the very latest, it will be ready for occupancy on or before July first of this year.

From the "Journal," official publication of the City Fire Fighters Union, Cleveland, Ohio, edited by Irwin V. Ballasch.

Rural Fire Fighting

Continued from page 7

the station on a call coming in, keeping the log, helping with the records, and lending a hand to keep the station up to its customary pitch of fire service spotlessness.

Great changes have come to the country fire service, even within the memory of serving firemen. Many will recall the days when the "steamer," with the fire under its boiler alight, had to wait in its often ramshackle shed whilst horses in a nearby field were caught and harnessed, or even until the local hearse returned from its sombre mission. The horses, familiar

with the red doors of the station and the gleaming brass helmets of the men, would quickly realize what was afoot. Excited by the hi! hi! hi! of the crew, they would canter through the village, fully conscious of the admiration they were evoking.

Changes come to the fire service, to its equipment, its uniform and its organization, but the spirit of the fireman, shown in his devotion to duty and pride in his job, will live forever. His work is not without danger, and this fact sustains him and gives him a fundamental dignity. He serves the community well.

Editorial

Continued from page 5

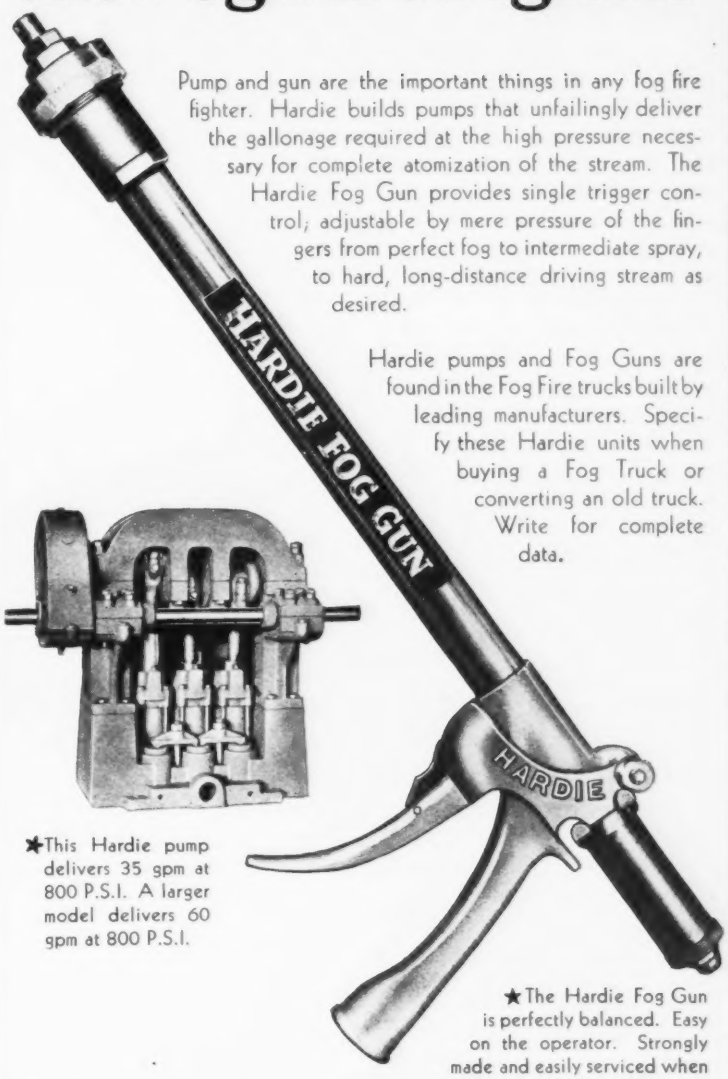
fire wall after three concerns had been destroyed and several others damaged.

This fire shows the need of proper liaison between fire and water departments. In view of the impaired water supply in this section of the city, the fire department should have been appraised of the serious situation and should have been prepared to use nozzle tips of not over 1-inch diameter and to conserve all possible water for the sprinkler system. It also appears that because of the large tips and long lines, pumper pressures were excessively high, at times reaching 300 psi, and only three lines could be obtained from the water system.

Soft suction connections are never advisable for large fires and especially would be undesirable where water supplies are known to be seriously deficient. The importance of secondary supplies for sprinkler systems, such as an adequate gravity tank, is also indicated as a desirable precaution against public water supply failure. The fourth lesson is that poorly manned fire companies may be ineffective on large fires and give a false sense of security. A minimum of four men is needed where a pumper must be operated. In a fire of this nature long lines of 3-inch hose would have been valuable in relaying water from distant hydrants to pumpers near the fire. One pumper did supply a relay.

U. S. FIRE LOSSES for March totaled $72,435,000, according to estimates by the National Board of Fire Underwriters. This figure is 36 percent higher than the March 1946 totals. Fire losses for the twelve months ending March 31 are $600,530,000.

★These Units Make the Fog Fire Fighter



Pump and gun are the important things in any fog fire fighter. Hardie builds pumps that unfailingly deliver the gallonage required at the high pressure necessary for complete atomization of the stream. The Hardie Fog Gun provides single trigger control; adjustable by mere pressure of the fingers from perfect fog to intermediate spray, to hard, long-distance driving stream as desired.

Hardie pumps and Fog Guns are found in the Fog Fire trucks built by leading manufacturers. Specify these Hardie units when buying a Fog Truck or converting an old truck. Write for complete data.

★This Hardie pump delivers 35 gpm at 800 P.S.I. A larger model delivers 60 gpm at 800 P.S.I.

★The Hardie Fog Gun is perfectly balanced. Easy on the operator. Strongly made and easily serviced when necessary.

THE HARDIE MFG. COMPANY
HUDSON, MICH.
Los Angeles, California **Portland, Oregon**
Canadian Distributor C. W. LEWIS, Grimsby, Ontario

★H★A★R★D★I★E
High Pressure PUMPS AND FOG GUNS
for Fog Fire Fighters

C-O-TWO

STOPS COSTLY FIRES

1. Fire started here. A tiny flame in this maze of pipes, pumps and tanks mushroomed to inferno pitch in minutes. A C-O-Two fire extinguishing system here, with a smoke detector, rate-of-rise or fixed temperature actuator, would have flooded the area with dry, sub-zero carbon dioxide gas and smothered the fire before it had a chance to spread.

2. 10,000 gallons of alcohol sent flames leaping 100 feet above the plant; intense heat drove firefighters away from the blazing building. C-O-Two blankets alcohol, gasoline and other flammable liquid fires in clouds of cooling, inert, oxygen-diluting carbon dioxide gas. It does not scatter blazing liquid.

3. In 30 minutes the roof and two walls had collapsed. A few seconds later, the remaining walls fell.

4. 90 minutes after the fire started—this is all that was left of a $500,000 specialized processing plant—twisted metal and smoking rubbish. C-O-Two systems detect fires at once and put them out instantly, before they cause excessive damage.

If your plant has special fire hazards such as electrical equipment, diesel engines, spray booths, dip tanks, blueprint and record vaults or cooking vats, be sure they are protected. C-O-Two, the modern fire extinguishing agent, is safe to use on live electric equipment; it does not corrode metals, injure fabrics and finishes nor contaminate food. C-O-Two is available in sizes for every type risk: famous Squeeze-Grip portables, wheeled and hose reel units, automatic or manually operated fixed pipe systems, smoke detecting systems and heat-actuated fire detecting systems. A C-O-Two distributor or one of our engineers will help you plan safe, modern fire protection. Write for further information.

C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 NEW JERSEY
Sales and Service in the Principal Cities of United States and Canada
AFFILIATED WITH PYRENE MANUFACTURING COMPANY

Meeting Notices

May 6–8: President's Conference on Fire Prevention, at the Interdepartmental Auditorium, Washington, D. C. Details of the conference will appear in other NFPA publications.

May 12–14: Northwest Fire School, Minneapolis, Minn.

May 20–23: 23rd Annual Iowa Fire School, Marshalltown, at the Municipal Coliseum.

May 20-June 24: New Jersey State Fire College, Newark.

May 26–28: New Mexico State Firemen's Association, Carlsbad.

May 26–28: Conference and fire school of the Oregon Fire Chief's Association, at the Columbia Gorge Hotel, near Hood River.

May 26–29: 51st Annual Meeting of the NFPA, at the Palmer House, Chicago.

June 2–6: 18th Annual South Dakota Fire School, at Mitchell.

June 9–11: Missouri Valley Fire Chiefs' Convention, Omaha, Neb.

June 10–13: Illinois Fire College, at the University of Illinois, Urbana.

June 14–17: 6th Annual Connecticut Fire College, at Fort Trumbull, New London.

June 17–19: Michigan Fire College, at the University of Michigan, Ann Arbor.

June 19–22: Berks County Firemen's Assoc. Training Forum, Wyomissing, Pa.

June 26–27: Missouri State Fire Conference, University of Missouri, Columbia.

New Jersey Fire College

NEW JERSEY firemen have a broad training program ahead, according to an announcement by state fire college officials. Beginning May 20 through June 24, on succeeding Tuesdays, the New Jersey State Fire College will conduct six sessions at Barringer High School, in Newark, under the auspices of the New Jersey State Safety Council and cooperating fire service organizations.

Among the subjects to be covered are: chemistry of fire with laboratory demonstrations, classification of fire, first aid, fire gases, ventilation of burning buildings, automatic sprinklers and the fire department, airplane crash fires, fire extinguishers and chemical fire extinguisher systems, flammable liquids and electrical hazards.

Three full-day sessions will be held

Continued on page 20

SOME PLACES THEY SAY—

"Only a Run"*

... BUT EVERYWHERE THEY SAY—

"Modernize with Macks!"

*Send us unusual expressions used in *your* department.

"It's only a run" is an expression used by many fire departments. It means responding to an unnecessary alarm or an out-on-arrival fire. And such runs make up a large percentage of every department's responses . . . account for much of the wear and strain made on fire apparatus.

That's why more and more fire officials are concerning themselves with the road performance and durability of the apparatus they buy, as well as its firefighting serviceability.

Mack fire engines are known for their ability to stand up under the most punishing running conditions. Start-and-stop maneuvering in heavy traffic, leveling grinding gradients, roaring with open throttle over open highways — every kind of operation finds a Mack designed to do the job and more!

Macks deliver this performance because they are the product of the greatest facilities in the fire engine field.

This reputation is a good indication why fire officials in over 1,000 departments say "Modernize with Macks!"

Tacoma, Washington's new Mack Type 95 1000-gallon pumper.

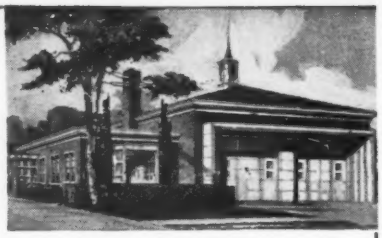
Mack FIRE APPARATUS

· MACK MANUFACTURING CORPORATION Fire Engine Division, Long Island City 1, N. Y.

5001

TRIPLE COMBINATION PUMPERS — 500 TO 1250 GALLONS • SQUAD WAGONS • CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

Better
FIRE STATIONS
with CIRCUL-AIR
THE AIR-CONDITIONING



FIRE HOSE DRYER

We're sure you want your new stations to be of **Modern Design**, simpler . . . streamlined houses in keeping with the times . . . with better lighting, heating, adequate alarm systems, finer apparatus and **FASTER HOSE DRYING.** In eliminating the costly, ugly hose tower of the "gay 90's" **CIRCUL-AIR** improves building appearance and lowers construction cost. Efficient and practical for large central stations, they are ideal for "bungalow" type houses, for villages, townships and fire districts where time-saving, space and costs are decisive factors.

BETTER HOSE DRYING *for* OLD STATIONS *too!*

Without adequate drying equipment, or with towers in need of repairs they are most economical and efficient. Cheaper than a tower, more compact than a drying rack, faster and easier to use than either.

ASK A CHIEF WHO HAS ONE

Or Write for Descriptive Booklet

The CIRCUL-AIR Corporation
NEW ADDRESS
575 E. Milwaukee St. -:- Detroit 2

PROPELLO-RAY *LIGHT*

Simultaneously alerting pedestrians and all traffic . . . while insuring safety to your vehicle and crew . . . the compelling effect of the Propello-Ray's roving blade of red light gets you *through.*

Double action means quicker re-action—for the natural warning of red is intensified in the Propello-Ray Light by a sweeping, rotating beam that can't be ignored.

Any hour . . . any season . . . the urgency of your call is dramatically announced with scintillating silence . . . there are no noisy gears or complicated parts in the high candlepower, sealed-beam Propello-Ray Light. All moving parts are handsomely encased in streamlined chrome weather-proof housing to guarantee dependable, satisfying service.

FEDERAL ELECTRIC COMPANY, Inc.
8717 SOUTH STATE STREET • CHICAGO 19, ILLINOIS

New Jersey State Fire College

Continued from page 18

in the central part of New Jersey during August at which practical training in the use of extension ladders, smoke masks, and similar equipment will be given. Camden, N. J., will be the site of another 6-week session in the fall. All sessions in each area are open to members of plant brigades, paid and volunteer firemen, and fire officials throughout the state.

★ ★ ★

Illinois Regional Schools

ILLINOIS STATE FIRE MARSHAL John H. Craig reports that twenty-six 2- and 4-day regional fire schools have been arranged for 1947, covering all portions of the state, in addition to the annual state fire college at Urbana, June 10–13. The regional schools begin April 15 and continue through September 12. There still remain four open dates in which additional schools may be scheduled. It is believed that by having schools serve compact districts, a larger attendance will result because travel distances will be cut down.

★ ★ ★

New Naval Manual

UNITED STATES NAVY STRUCTURAL FIRE FIGHTING. Compiled by the Fire Protection Section, Office of Chief of Naval Operations. 252 pages, cloth bound.

This book is a new illustrated manual on fire department practices for U. S. Naval shore establishments. It is well illustrated with photographs of major fires at naval installations and with photographs and drawings of fire department drills and fire fighting appliances. Chapters and sections include such titles as: The Science of Fire Fighting; Essentials of Fire Protection Ashore, including water supply, structural conditions, fire alarm systems, fire prevention, building regulations; Fire Department, including equipment and personnel requirements, mutual aid, rules and regulations, personnel management; Fire Fighting Operations; Fire Department Drills, including engine company drills, pumper drills, ladder drills, salvage drills, rescue drills; appendix and tables.

The book is for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., at $1.25 a copy.

Facts and Figures

FURNISH CONVINCING PROOF OF ADT EFFECTIVENESS

The outstanding value of ADT Central Station Protection Services is most effectively demonstrated by the accompanying statistics for 1946.

The continuous high ratio of immunity from fire and burglary losses enjoyed by ADT Subscribers for the past ten years is most significant.

Only through the superior facilities and experience of a nation-wide service organization of protection specialists could such results be attained.

ADT

PERFORMANCE 1946

BURGLAR AND HOLDUP ALARM SERVICES

Attacks on A.D.T. Protection *(An increase of about 15% over 1945)*	1748
Entrances effected	920
Captures as result of burglar alarms *(An increase of 16% over 1945)*	589
Captures as result of holdup and other emergency alarms *(An increase of 85% over 1945)*	100
Ratio of losses in attacks on A.D.T. Protection to insurable values protected	1/100ths of 1%
Immunity from burglary loss	99 99/100ths %

WATCHMAN'S REPORTING AND MANUAL FIRE ALARM SERVICE

Investigations of failures of watchmen to signal Central Stations on schedule	230,645
Total number of signals recorded	356,272,168
Watchmen's patrol efficiency	99 94/100ths %
Fire alarms from manual boxes	1432
Insurable values of properties protected	$15,001,714,000
Ratio of fire losses to insurable values protected	5/100ths of 1%
Fire loss immunity in 1946	99 95/100ths %
Average fire loss immunity during the past ten years	99 97/100ths %

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Supervisory alarms, indicating impairment of sprinkler systems	149,592
Waterflow alarms, indicating fires or serious leaks	2621
Manual fire alarms	116
Insurable values of properties protected	$7,192,794,000
Ratio of fire and water losses to insurable values protected	2/100ths of 1%
Fire loss immunity in 1946	99 98/100ths %
Average fire loss immunity during the past ten years	99 98/100ths %

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.**
155 Sixth Avenue, New York 13, N. Y.
CENTRAL STATIONS IN ALL PRINCIPAL CITIES OF THE UNITED STATES

ADT

Electric Protection Services
AGAINST FIRE · BURGLARY · HOLDUP
A NATION-WIDE ORGANIZATION

If you want Volume and Pressure . . .

Specify HALE

It's what comes out at the nozzle that counts.

Firefighters who have used Hale Fire Pumps have learned through first-hand experience to appreciate their flexible range of performance and high efficiency.

They know they can depend on HALE for the right volume and the right pressure to fit a wide range of tough fire-fighting conditions.

Make sure of the same flexibility and dependability in your next piece of apparatus by insisting on a Hale Fire Pump.

Hale Fire Pumps are built in all Standard Capacities

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.

Fyr-Fyter equipment has proven its value in preventing small fires from becoming disastrous through the loss of life and property. Recent catastrophic fires with terrific loss of life emphasize the urgent need of fire protection. A complete line of Underwriters Laboratories labeled Fire Extinguishers

HELP SAVE LIVES AND PROPERTY

Get Fyr-Fyter for safety's sake. We advise and serve manufacturing plants, public institutions, homes, garages, trucks, autos, etc., immediately. Established over 30 years. Write us today regarding **Fyr-Fyter** equipment for your own protection.

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DEPT. 20-29, DAYTON 1, OHIO

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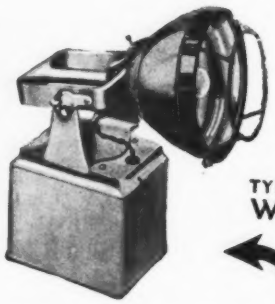

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- **RECHARGEABLE BATTERY**
- **LIGHTEST WEIGHT**
- **POWERFUL—MILE RANGE**
- **LONGEST BURNING HOURS**
- **ALL NIGHT WORK LIGHT OR**
- **150,000 C.P. SEARCHLIGHT**
- **SPARE BATTERY INSERTED IN TWENTY SECONDS**

WRITE FOR NEW EMERGENCY LIGHTING BULLETIN

CARPENTER MFG. CO.
168 MASTER★LIGHT★BLDG.
BOSTON 45, MASS.

The terrible explosion and fire tragedy at Texas City, Texas, involving perhaps the greatest loss of life in U. S. fire annals, and the greatest monetary loss by fire since the San Francisco conflagration of 1906, occurred too late for a factual detailed report to be prepared for this issue of FIREMEN. An N.F.P.A. staff engineer flew to the scene and with the cooperation of N.F.P.A. members in Texas will secure accurate data for accounts in the June issue of FIREMEN and in other National Fire Protection Association publications which go to all members.

National Fire Protection Association, International

Associate Membership

VOLUNTEER FIRE COMPANY SECTION ($10 annual dues) Eligible:

(1) all bona fide volunteer fire organizations in any community.

(2) all fire departments and companies in communities of less than 25,000 population.

(3) all industrial fire brigades.

Member volunteer fire companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1 per year.

Volunteer Fire Company Section members, receive, at their headquarters, one copy of all publications sent to NFPA associate members.

ASSOCIATE MEMBERSHIP ($10 annual dues) Eligible: Individual fire department officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive: one copy of FIREMEN magazine monthly, the NFPA **Quarterly,** the monthly **News Letter,** technical standards, popular bulletins and posters.

All associate members have one vote in Association affairs.

New members of the Volunteer Fire Company Section are:

UNITED STATES

A. & M. College of Texas, College Station, Texas
Alcoa Fire Dept., Alcoa, Tenn.
Big Bear Lake Fire Dept., Big Bear Lake, Calif.
Chemung County Fire Co., Elmira, N. Y.
Children's Hospital Fire Brigade, Boston 15, Mass.
Hartville Volunteer Fire Dept., Hartville, Ohio
Hilton Fire Dept., Inc., Hilton, N. Y.
La Sierra College, Arlington, Calif.
Manhattan Volunteer Fire Dept., Manhattan, Ill.
Niagara Fire Co. No. 1, Inc., Niagara, N. Y.
Radnor Fire Co., Wayne, Pa.
Riverdale Heights Volunteer Fire Dept., Inc., Riverdale, Md.

CANADA

Spiritwood (Village of), Spiritwood, Sask.

About Our Members

THE DADE CITY, FLA., VOLUNTEER FIRE DEPARTMENT (NFPA member) was recently organized under Chief Harvey Worthington. The department has a new Pirsch 500 gpm pumper and home-built Chevrolet booster tank and hose truck. The members are very active in training operations and, according to Secretary C. E. Sidaway, are critical of their own operations at drills and fires in order to increase efficiency. Additional training has been requested from the Florida State Fire College.

THE ALCOA, TENN., FIRE DEPARTMENT (NFPA member) protects the city of Alcoa, population 6,500, the home of several large plants of the Aluminum Company of America. Each plant has a private fire department and the town volunteer fire department responds only on request with its combination pumper.

The fire company is organizing a junior fire department, sponsoring a Boy Scout Troop, and has representatives at the state fire training school each year. The one paid driver has an apartment at the fire station. According to Chief F. L. Baker, firemen are paid $2.50 for alarms and $1.50 for drills attended.

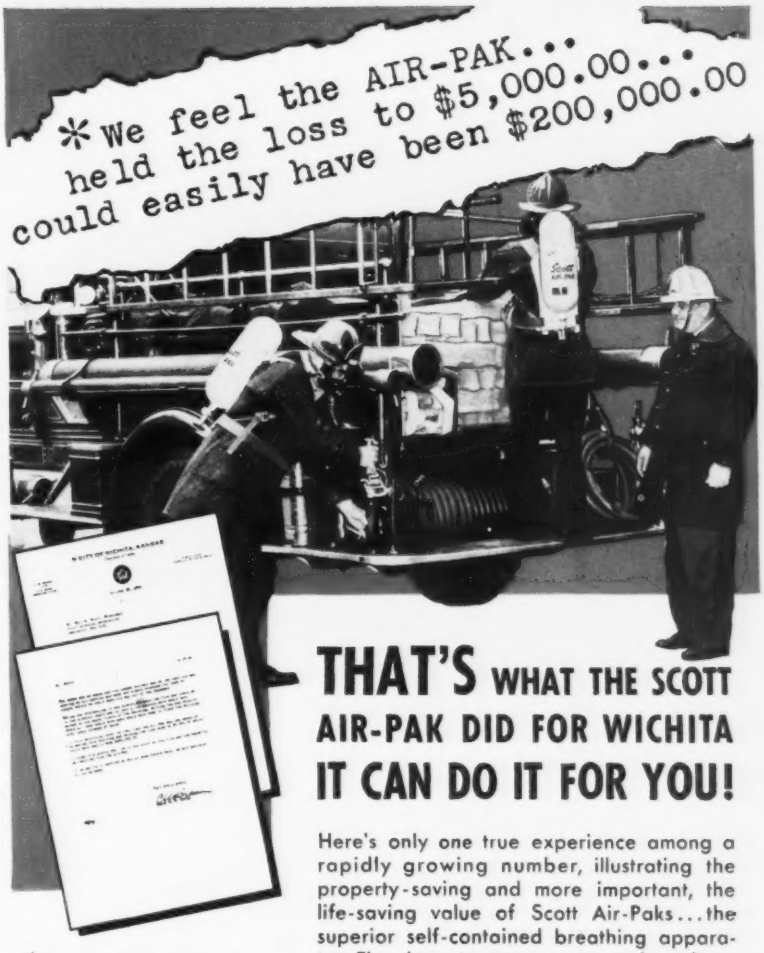
FIRE CHIEF E. SCOTT BUNKER of Olivia, Minn., reports an interesting farm fire fighting plan to provide rural fire service at reasonable cost to farms near Olivia. The fire department (NFPA member) has a new rural fire truck, carrying 430 gallons of water and a high pressure fog pump, supplying two reels of high pressure hose. The contract to farmers provides rural fire fighting service for a ten year period for the sum of $20 for each unit of buildings, or the sum of $10 paid in advance for each call answered in excess of one during the ten-year period. The charge for answering rural fire calls to property not covered by the contract is $50 per call.

CHIEF IVAN A. GOODWIN, of the village of Manhattan, Ill., Volunteer Fire Department, a new member of the NFPA Volunteer Fire Company Section, operates a 500 gpm pumper manned by the fire company and owned by stockholders, comprised of a portion of the farmers in the company territory. It is hoped in the near future to organize a rural fire protection district which will extend fire protection to all nearby farms. Members are paid $1 for each alarm answered.

Our Readers Boast!

"Our Fire Department lays claim to having the largest 100 per cent volunteer fire department in the United States. We have 98 active men and a chief and an assistant chief, all of whom receive no compensation for their work. We would like you to find out for us if there are larger volunteer departments in the United States.

"CAPT. CHARLES H. YOHO,
"Martins Ferry Fire Department,
"Martins Ferry, Ohio."



*Excerpt from letter by Chief C. W. Brown of Wichita, Kansas.

THAT'S WHAT THE SCOTT AIR-PAK DID FOR WICHITA IT CAN DO IT FOR YOU!

Here's only one true experience among a rapidly growing number, illustrating the property-saving and more important, the life-saving value of Scott Air-Paks... the superior self-contained breathing apparatus. Fire department users everywhere have found *no other* apparatus containing *all* these prime features:

Can be used under all weather conditions... 20° below zero or desert heat.

Fresh, Cool Air... Not Oxygen... Instantly Ready.

Constant, Dependable Check on Remaining Air Supply.

Bureau of Mines Approval No. 1308

Write *today* for complete information and added proofs from actual usage!

SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.
236 ERIE STREET, LANCASTER, N. Y.

Established in 1932
Scott
FOR SAFETY—FOR SERVICE

"THERE CAN BE NO COMPROMISE WITH QUALITY WHEN A LIFE IS AT STAKE"

TRADE MARK

MEARL FOAM

The all-climate, dependable mechanical foam extinguisher » » » *It flows—covers—seals—extinguishes* » » » Highly effective on oil and gasoline fires—on Class A fires » » » Use with any kind of water—at any temperature—in all makes of equipment.

Write for descriptive bulletin

FIRE OUT... Stays OUT!

THE MEARL CORPORATION
153 Waverly Place, New York 14, N. Y.

Extinguisher Manufacturers Assn. Elects

Paul W. Eberhardt, vice-president of Walter Kidde and Co., Inc., Belleville, N. J., was elected president of the Fire Extinguisher Manufacturers Association at their annual meeting March 21.

George H. Boucher, vice-president of the Pyrene Manufacturing Co., was named first vice-president and Charles H. Stephans, president of the Buffalo Fire Appliance Corp. was elected second vice-president. Everett Warren, vice-president of the General Detroit Corp. was made treasurer of the association, and R. Kennedy Hanson was appointed secretary.

James O. Binford, vice-president of the American-La France-Foamite Corp., and Herman W. Diener, vice-president of the George W. Diener Manufacturing Co. of Chicago, were elected to the association's Board of Directors, together with the four officers.

The Association, which is made up of 18 leading manufacturers of "approved" fire extinguishers and represents about ninety percent of the productive capacity of the industry, announced that the Union Stop-Fire Corp. of Brooklyn and the Badger Fire Extinguisher Co. of Somerville, Mass., had been elected to membership.

The MACKINAW Coat
Gives You Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property against FIRE

Mackinaw Coats and Protective Clothing
by Midwestern

Note the durability, flexibility. Reinforced at every point of strain and wear. Made for protection, comfort, and long wear.

Our policy remains as always . . . only the finest material is used in Midwestern products.

Raw materials to meet our rigid specifications are not available in sufficient quantities to supply the demand for Midwestern products. However, in order to deliver without delay, we refuse to buy inferior materials that will lessen the service you have a right to expect in Mackinaw Coats and all other Midwestern clothing.

As a result, we are unable to keep pace with the demand for immediate deliveries. But we pledge ourselves to maintain our reputation, to merit your confidence, by continuing to use only the highest grade materials.

You'll agree that the extra protection, built-in comfort, and longer wear you get in Midwestern clothing make it well worth while placing your order for scheduling into our production as soon as possible. There is no substitute for quality.

NONE GENUINE WITHOUT THIS TRADE MARK

For complete information see your Midwestern Dealer or write factory direct.

MIDWESTERN MFG. CO. MACKINAW ILLINOIS
Manufacturers of the Famous MACKINAW Coats

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VILLAGE OF ENDICOTT

BUREAU of FIRE

Endicott, N. Y.

March 3, 1947

OFFICE OF CHIEF

Mr. Roy Pulver, Sales Manager
John Bean Mfg. Co. (Fire Fighting Division)
Lansing 4, Michigan

Dear Mr. Pulver:

I feel you should receive a note in regards to our new F. M. C. High-Pressure Fog Fire Fighters. As you know, this is a Village of about 25,000 people and the Fire Department has the following equipment: 1 750 gal. pump, 2-500 gal. pumps, 1-65' aerial ladder, 1-chief's car, 1-750 pumper on order to replace the present 750 gal. pump, and 1-100' aerial ladder on order. During the past 6 months, we have placed in service 2-F. M. C. Fog Fire Fighters. One is mounted on an International chassis and stationed at the Tri-Cities Airport, the other is mounted on an Autocar chassis with an all aluminum enclosed body carrying sixty some pieces of emergency equipment and is stationed at Fire Headquarters.

The first call this Hi-Pressure Fog truck responded to fulfilled all our expectations and amazed the onlookers. Witnesses believed we used a dry chemical, instead of water to put the fire out.

From my experience, I would say for the Fire Departments now using Hi-Pressure Fog they are just about five years ahead of the field and only time will back up my statement.

Here are some of the advantages we have found in Hi-Pressure Fog. First, high pressure fog extinguishes all types of fires with amazing speed. Second, fog requires very little water to do its work. Third, water loss is greatly reduced. In fact, it very nearly approaches the long sought ideal of making the fire and water come out even. Another big advantage is its universal effectiveness: no matter what kind of a fire, high pressure fog will speedily knock it out. We have definitely learned that high pressure fog has great ventilation possibilities if properly employed. Also, that high pressure fog will not conduct high voltage current back to the nozzle, even at close range.

85 per cent of our fire loss has been from water and I am proud to say that our F. M. C. Fog Fire Fighter has reduced this water loss to a minimum.

Very truly yours,

Edw. J. Hart

Edw. J. Hart, Chief

P.S. The F. M. C. Fog Fire Fighter also eliminated our manpower shortage.

WHAT ARE YOU DOING TO PREVENT FIRE?

JOHN BEAN MFG. CO. 726 HAZEL ST., LANSING 4, MICH. : BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

GENERAL BWH DEPENDABLE RUGGEDNESS

NOW! 113 YEARS OF FIRE-FIGHTING KNOW-HOW AT YOUR SERVICE

To better serve the municipalities of America, the General Detroit Corporation has been appointed exclusive sales agent of famed Boston Woven Hose & Rubber Co's *Municipal* Fire Hose for virtually all of the United States, as well as for export markets.

The progressive General Detroit Corporation and its subsidiary, the General Pacific Corporation, add their 44 years' experience in the manufacture of fire extinguishers and motor fire apparatus to the enviable 69-year record of Boston Woven Hose in producing the original cotton-jacketed hose, accepted as standard everywhere today.

Municipalities across the land recognize the real economy of using dependably rugged BWH Fire Hose. The "smoke eaters" know its flexibility and ease of handling.

This pooling of effort means that BWH Fire Hose will now be available to municipalities through the branch offices and warehouses of the General Detroit Corporation in almost every section of the country. A "General" representative is nearby to help you. His knowledge and experience are at your service. Please call on him for dependable advice when next your city needs fire hose of dependable ruggedness.

BWH
"BOSTON FIRE JACKET" HOSE
Double Jacket

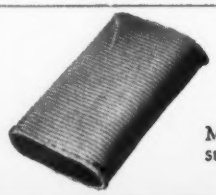
Outstanding value. A real quality hose for municipalities that want the best obtainable.

BWH
"PARAMOUNT" HOSE
Double Jacket

An exceptionally fine value. High-grade materials and workmanship throughout.

BWH
"UNDERWRITERS" HOSE
Single or Double Jacket

Made in strict accordance with National Board of Fire Underwriters specifications. Labeled or unlabeled.



BWH
"MILO" HOSE
Single Jacket

Made for light pressures where a good, strong, light weight hose is desired.

NOW! Distributors of famous
BOSTON WOVEN HOSE AND RUBBER CO.
Municipal Fire Hose

THE GENERAL DETROIT CORP.
Manufacturers of Fire Extinguishers
Motor Fire Apparatus and Allied Equipment
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NEW YORK • PHILADELPHIA • ATLANTA • CHICAGO • DALLAS
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AKRON *the Original and Genuine*

TRADE **ROCKERLUG** MARK
REGISTERED

Here is the coupling of proven quality and features offered solely by AKRON BRASS. *Now* add the Rocker Ring for thread protection—the NEW AKR-O-LITE alloy for weight reduction (one-third the weight of brass.) Conclusion: the New AKR-O-LITE ROCKER RING COUPLING, the only postwar coupling saving time and money as always—plus, now saving threads and energy in handling.

Don't take chances with imitations. Always specify genuine ROCKERLUG couplings made by Akron Brass.

AKRON BRASS MFG. COMPANY · INC.
WOOSTER, OHIO

Only
AKRON BRASS
offers you genuine ROCKERLUG Couplings with these features:
HIGBEE THREAD
HIGBEE INDICATOR
TAPERED STILL THREADS

FIREMAN FREDDIE SAYS: *When buying equipment to safeguard lives and property from fire, it should be a "must" to buy the BEST!*

AKRON BRASS
FIRE FIGHTING EQUIPMENT

DELAYED ALARMS

CAUSE FIRE DISASTERS

WHEN FIRE OCCURS—

PULL A FIRE ALARM BOX IMMEDIATELY!

"It is generally recognized that there is no other thoroughly satisactory means of sending and receiving fire alarms than an approved fire alarm telegraph system. Telephones should not be relied upon to replace needed boxes nor to supplement any inadequacy in number or location of boxes."

—National Fire Protection Association

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THE GAMEWELL COMPANY

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